

and floral morphology, but *Apacheria* differs in having stipules, an aril on the seeds, and wholly superior follicular fruits (rather than capsules) developing in a perigynous cup. Furthermore, this new species is glabrous except for the hispidulous ovaries, whereas species of the other genera are most commonly pubescent and often copiously so.

The Spiraeoideae (Rosaceae) was also considered because of the follicular fruits in a concave receptacle but was ruled out on the basis of the endosperm and aril of the seeds and the opposite leaves. *Lyonothamnus*, the only southwestern genus in the Spiraeoideae with opposite leaves, shows a similarity only in the follicular fruits. The resemblance to *Coleogyne*, a genus of southwestern United States in the subfamily Rosoideae, is restricted to the opposite leaves.

The pollen of several potentially related species in the Saxifragaceae and Rosaceae was studied for a comparison with *Apacheria*. In no case was the similarity as close as that of *Crossosoma*.

I express my appreciation to and acknowledge the assistance of Dr. Allen Solomon, Department of Geosciences, University of Arizona, in comparing and describing the pollen of *Apacheria*, *Crossosoma*, and other genera.

## A NEW SPECIES OF GALIUM (RUBIACEAE) FROM THE SIERRA MADRE ORIENTAL

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On 18 June 1948, F. G. Meyer and D. J. Rogers collected a very distinct and in several ways remarkable *Galium* in the Sierra Madre Oriental of Mexico. Although the general appearance of the plant immediately sets it apart from any other *Galium* that I have seen, its most remarkable character proves to be the long-campanulate or tubular corolla. Of several *Galium* taxa in southwestern United States and northern Mexico that have campanulate corollas, including most notably *G. hilendiae* ssp. *kingstonense* (Demp.) Demp. & Ehrend., *G. pringlei* Greenm., *G. correllii* Demb., *G. mexicanum* H.B.K., *G. pendulum* Greenm., and *G. carmenicola* Demp., the new species has the longest corollas (fig. 1 A). The next longest are those of *G. hilendiae* ssp. *kingstonense*, a member of a quite different species group, and *G. pringlei* (fig. 1 E), which occurs a little farther north in the same mountain range as the new taxon. Indeed the difference in size, shape, and posture, even between the two corollas illus-

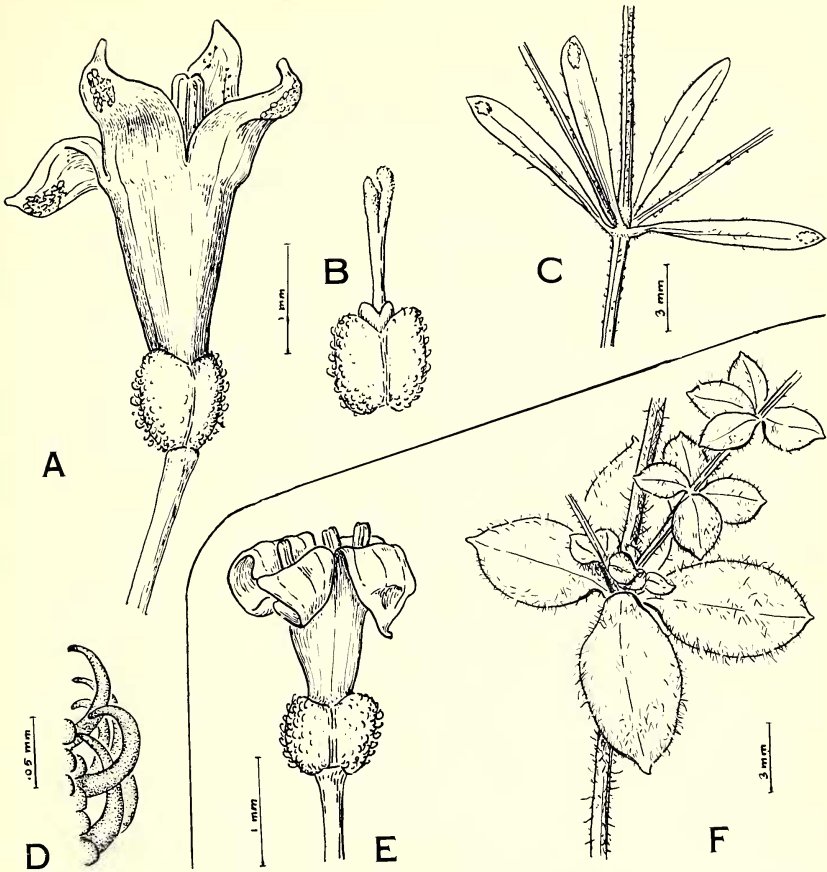


FIG. 1. Leaves, flowers, and details of *Galium lacrimiforme* and *G. pringlei*. A-D, *G. lacrimiforme*: A, flower, with one stamen showing; B, gynoecium; C, node, showing leaves and branches; D, hairs from ovary. E-F, *G. pringlei*: E, flower; F, node, showing contrast between primary and secondary leaves.

trated, is not so great as to be incompatible with their coming from conspecific plants. In other respects also, the flowers are alike, namely in their strongly arcuate, apically-directed ovary hairs (fig. 1 D), their oblong, little-exserted anthers, and their linear, rather than globular, stigmas (fig. 1 B). Vegetatively, however, these plants are so strikingly different that there can be no doubt of their being specifically separate. *Galium pringlei* has mostly elliptical to orbicular leaves (fig. 1 F), and the stems and leaves are more or less densely covered with long spreading hairs, whereas the new species has linear to oblanceolate leaves (fig. 1 C), and the indumentum is altogether different, the stems having very short curly hairs and the leaves a very few short apically directed hairs. Habit also appears to be quite different in the two species, but caution

should be observed on this point, inasmuch as there is only one collection of the new species, although we have 12 collections of *G. pringlei*. An outstanding characteristic of *G. pringlei* (fig. 1 F) is that the secondary growth arising at the nodes of the long primary stems is conspicuously different, particularly in congestion and size of leaves, from the primary stems and leaves. In the type of the new species the plants are lower, and there is no obvious difference between primary and secondary stems and leaves. Although we cannot be sure that these differences in habit are valid, the difference in shape of leaves and in indumentum will, in my opinion, not be bridged.

The new species is named *Galium lacrimiforme* because of the elongated tear-drop shape of the leaves.

***Galium lacrimiforme*** Dempster, sp. nov. Planta perennis herbacea; caules pilis crispis mollibus obtecti; folia quatuor uninervia, anguste oblanceolata, 4–12 mm longa, basin versus sensim angustata, apice rotunda vel leviter acuta, pilis paucis brevibus instructa; flores pauci perfecti, corollis glabris campanulatis, lobis quatuor patentibus, antheris oblongis vix exsertis, stigmatibus linearibus inclusis, ovario pilis sursum arcuatis oblecto; fructus maturi non visi.

TYPE: Nuevo Leon, 8 miles east of Dulces Nombres, 24° N., 99° 35' W., *Meyer and Rogers 2586* (holotype, MO!; isotypes, GH! BM!). In oak-pine forest, at 1550 m.

Herbaceous perennial, rooting at the nodes; stems softly pubescent with downward-curling hairs; leaves 1-nerved, ascending, 4 to a node, 4–12 mm long, linear to oblanceolate, tapered gradually to a petiole, round or somewhat acute at apex, unarmed, the surfaces glabrous or with a few soft hairs; glandular cells clustered below the apices; flowers few, perfect, 2–3 mm long, apparently solitary in the axils or paniculately disposed in irregularly developed cymules on leafy branchlets, the true pedicels shorter than the flowers to nearly obsolete; corollas glabrous, narrowly campanulate, cleft about two-fifths, the 4 lobes spreading, blunt, punctate within, externally set with a cluster of glandular cells; anthers partly exserted from the corolla tube, about half as long as the tube; stigmas well included, linear, on style about as long as stigmas; fruit dry, of 2 hemispherical mericarps, set with short strongly arcuate or uncinat hairs; mature fruit not seen.

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